

# Optimum Utilization of Slot Gap in PIFA Design

## Abstract

Operating parameters of a planar antenna are controlled by providing a planar metal radiating element having an edge, by providing a slot within the radiating element, the slot having side walls, an open slot-end that lies on the edge of the radiating element, and a closed slot-end the lies within the radiating element, and by providing a thin, line-like, and metal segment, at least a portion of which is coplanar with the radiating element and that extends from the open slot-end to the closed slot-end without physically engaging the slot's side walls. The metal segment can be connected to the antenna's ground plane to thereby form a parasitic element, or the metal segment can be connected to the radiating element to thereby form an extension of the radiating element.